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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,351

05/23/2006

Lars Friedrich

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EXAMINER

BOLDA, ERIC L

ART UNIT

PAPER NUMBER

3663

MAIL DATE

DELIVERY MODE

06/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/580,351

Applicant(s)

FRIEDRICH, LARS

Examiner

Eric Bolda

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 4-10, 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

## DETAILED ACTION

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.84(h)(5) because Figure 1 show(s) modified forms of construction in the same view. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 4, 6, 7, 9, 10, and 14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim *cannot depend from any other multiple dependent claim*. See MPEP § 608.01(n). Accordingly, the claims 4, 6, 7, 9,

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10, and 14, as well as the claims depending on them, 5 and 8, have not been further treated on the merits.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 11 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims are replete with references to “amplified spontaneous emission”, (“ASE”) but no amplifiers employing gain media with discrete levels are mentioned anywhere in the disclosure. In the art, the term “amplified spontaneous emission” is used to designate a type of scattered light emitted from gain media with discrete levels (e. g. Erbium-doped fiber), while the term “amplified spontaneous scattering” is used for scattered light in a Raman process (e. g. undoped glass fiber). The preamble of claims 1 and 11 mention an optical amplifier, but then go on to recite “in particular an optical Raman amplifier” so it appears that a Raman amplifier may have been intended (otherwise, the claims can not be enabled). Hence, if a Raman amplifier is intended, the correct term would be “amplified spontaneous scattering”.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With regard to claims 1 and 11, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 1 and 11 recite the broad recitation "an optical amplifier", and the claims also recite "in particular an [optical] Raman amplifier" which is the narrower statement of the range/limitation.

Further with regard to claims 1, 11 and 13, the term "amplified spontaneous emission" appears to be incorrectly applied, rendering the claims indefinite; see the 35 U.S.C. 112, first paragraph rejection above.

Further with regard to claim 1, reference numeral (7) is referred to as an optical amplifier in the claim 1, but this appears to contradict Figure 1, where (20) is a detector, and (7) is the connection between that detector and the controller (19).

These claims are interpreted as best understood by the Examiner.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamada et al. (US 7,031,049). Note: language such as "for coupling" "for decoupling", "for detecting" "for controlling.." being substantially assigned" are essentially statements of intended or desired use in the apparatus claims 11-13. Thus, these claims as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference, as shown below. See In re Pearson, 181 USPQ 641; In re Yanush, 177 USPQ 705; In re Finsterwalder, 168 USPQ 530; In re Casey, 512 USPQ 235; In re Otto, 136 USPQ 458; Ex parte Masham, 2 USPQ 2nd 1647.

See MPEP § 2114 which states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ 2nd 1647

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than functions. In re Danly, 120 USPQ 528, 531.

Apparatus claims cover what a device is not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

With regard to claim 11, Kamada discloses in Fig. 5 a Raman amplifier with

- A coupling unit (32) for coupling the pump power of an optical pump source (34) into an optical transmission line (30)
- a coupling unit (38) for decoupling the amplified spontaneous scattering (ASS) light fed back toward the pump of the amplifier
- a detector unit (48) detecting the decoupled ASS
- a control unit (44) controlling the pump source (34)

The control unit takes a signal from the ASS detector (48) and compares it to a preset threshold value, generating an alarm (error) signal when the value falls below the threshold value (8<sup>th</sup> col. lines 9-24).

With regard to claim 12, the coupler (32) is a band separation coupler (i. e. wavelength dependent), configured to pass substantially all the signal light along the transmission fiber (5<sup>th</sup> col. lines 9-16).

With regard to claim 13, the coupler (40) decoupling the ASS signal is wavelength independent (couples both the signal and ASS light) (7<sup>th</sup> col. lines 39-42).

With regard to claim 1, Kamada disclose the normal method of operating the Raman amplifier of Fig. 5, including monitoring the transmission line (30), coupling the optical pump source (34) into the transmission line (30), feeding back the ASS light and detecting that light at (48), and generating an alarm (error) signal when the power of the detected ASS signal falls below a preset threshold value (5<sup>th</sup> col. lines 5-40 and 8<sup>th</sup> col. lines 9-24).

With regard to claim 2, when the alarm (error) signal is activated the pump light is deactivated (8<sup>th</sup> col. lines 16-17).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamada as applied to claims 1-2 above, and further in view of Aoki et al. (US 6,879,434).

Kamada discloses all the elements of the claim except that error signal generates an error message. However, Aoki teaches an optical network in which operation includes error information from various optical nodes being collected to produce error messages (e. g. to indicate a failed fiber coupler) (10<sup>th</sup> col. lines 40-44). It would have been obvious to one skilled in the art (e. g. an optical engineer) to include a step of generating an error message from the alarm signal of Kamada, for the purpose of alerting the operator to replace the faulty fiber or coupler.

**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Sugaya et al. and Ghera et al.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric Bolda whose telephone number is 571-272-8104. The examiner can normally be reached on M-F from 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Jack Keith, can be reached on 571-272-6878. Please note the fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Eric Bolda*

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